[Claim 1] 1. A method for adjusting beams in a wireless communication system comprising the steps of:

forming a basis beam;
listening for a transmission by a mobile station; and
forming a select beam to cover said mobile station.

[Claim 2] 2. The method according to claim 1, further comprising the step of:

terminating said select beam when said mobile station is no longer transmitting.

[Claim 3] 3. The method according to claim 1, further comprising the steps of:

determining antenna weights for said basis beam; and
determining antenna weights for said select beam.

[Claim 4] 4. A method for updating a table in a wireless access point comprising the steps of:

determining when an entry for a station had been last updated;
determining if a time for said last update for said station is greater than a threshold; and
updating said entry for said station.

[Claim 5] 5. The method according to claim 4, said updating step further comprising the step of:

sending survey packets to said station.

[Claim 6] 6. The method according to claim 4, wherein said table includes angle of arrival information.

[Claim 7] 7. The method according to claim 4, wherein said table includes angle of arrival information computed from synchronization information received in a signal from said station.

[Claim 8] 8. A method for adjusting beams comprising the steps of:

determining if a station is covered by a basis beam;

adjusting said basis beam to cover said station.

[Claim 9]   9. The method according to claim 8, wherein an angle of arrival of said station is determined from header information contained in a packet received from said station and wherein said determining step determines if said station is covered by comparing said angle of arrival of said station with angles covered by said basis beam.

[Claim 10] 10.   A method for adjusting beams comprising the steps of:

decoding a first part of a transmitted packet to determine the angle of arrival of a station that transmitted said packet;

forming a select beam to cover said station based on said angle of arrival; and decoding a second part of a transmitted packet as received via said select beam.

[Claim 11] 11.   The method according to claim 10, further comprising the step of:

updating an angle of arrival table in an access point with said determined angle of arrival information.

[Claim 12] 12.   A method for adjusting beams comprising the steps of:

decoding a first part of a transmitted packet to determine the angle of arrival of a station that transmitted said packet;

adjusting a basis beam to ensure coverage of said station based on said angle of arrival; and

decoding a second part of a transmitted packet as received via a select beam.

[Claim 13] 13.   A system for adjusting beams in a wireless communication system comprising:

means for forming a basis beam;
means for listening for a transmission by a mobile station; and
means for forming a select beam to cover said mobile station.

[Claim 14] 14.   The system according to claim 13, further comprising:

means for terminating said select beam when said mobile station is no longer transmitting.

[Claim 15] 15. The system according to claim 13, further comprising:

means for determining antenna weights for said basis beam; and
means for determining antenna weights for said select beam.

[Claim 16] 16. A system for updating a table in a wireless access point comprising:

means for determining when an entry for a station had been last updated;
means for determining if a time for said last update for said station is greater than a threshold; and
means for updating said entry for said station.

[Claim 17] 17. The system according to claim 16, said means for updating further comprising:

means for sending survey packets to said station.

[Claim 18] 18. The system according to claim 16, wherein said table includes angle of arrival information.

[Claim 19] 19. The system according to claim 16, wherein said table includes angle of arrival information computed from synchronization information received in a signal from said station.

[Claim 20] 20. A system for adjusting beams comprising:

means for determining if a station is covered by a basis beam; and
means for adjusting said basis beam to cover said station.

[Claim 21] 21. The system according to claim 20, wherein an angle of arrival of said station is determined from header information contained in a packet received from said station and wherein said means for determining determines if said station is covered by comparing said angle of arrival of said station with angles covered by said basis beam.

[Claim 22] 22. A system for adjusting beams comprising:

means for decoding a first part of a transmitted packet to determine the angle of arrival of a station that transmitted said packet;

means for forming a select beam to cover said station based on said angle of arrival; and

means for decoding a second part of a transmitted packet as received via said select beam.

[Claim 23] 23.   The system according to claim 22, further comprising:

means for updating an angle of arrival table in an access point with said determined angle of arrival information.

[Claim 24] 24.   A system for adjusting beams comprising:

means for decoding a first part of a transmitted packet to determine the angle of arrival of a station that transmitted said packet;

means for adjusting a basis beam to ensure coverage of said station based on said angle of arrival; and

means for decoding a second part of a transmitted packet as received via a select beam.

[Claim 25] 25.   An access point comprising:

an antenna array;

one or more processors that receive packets from said antenna, said packets generated by mobile stations, said one or more processors decoding a first portion of said packets, determining the angle of arrival of said packets, and outputting antenna array weights to said antenna array to steer a select beam to cover said mobile stations.

[Claim 26] 26.   The access point according to claim 25, wherein said processor further outputs antenna array weights for adjusting a basis beam generated by said antenna array.